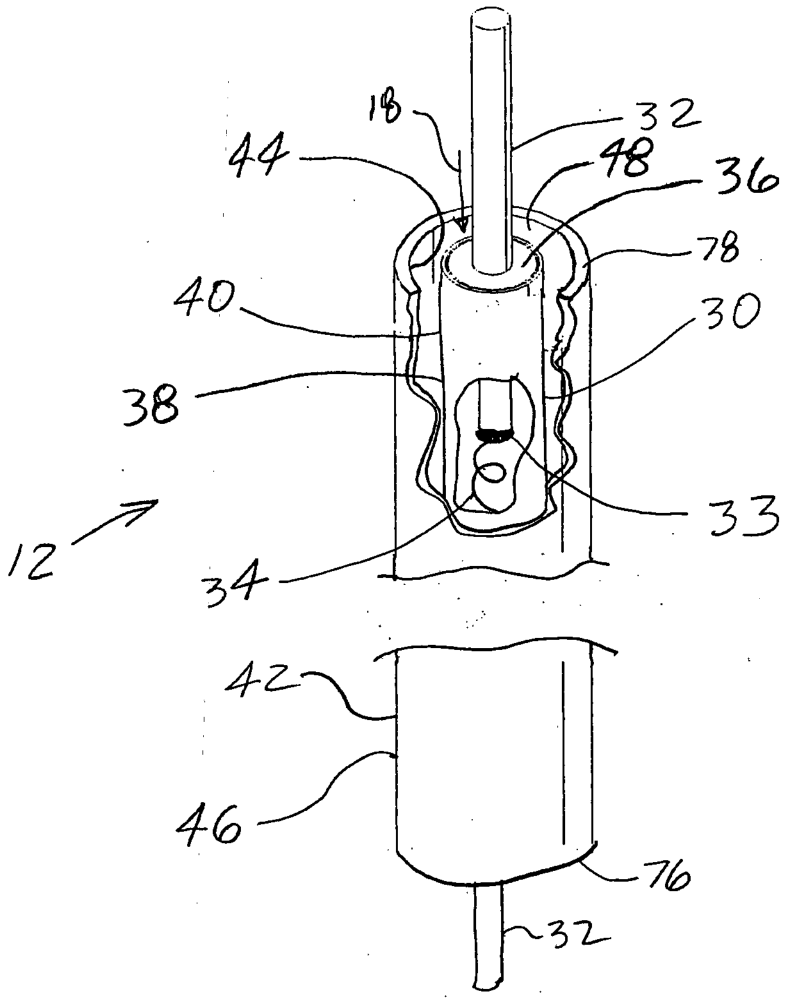

FIG. 1

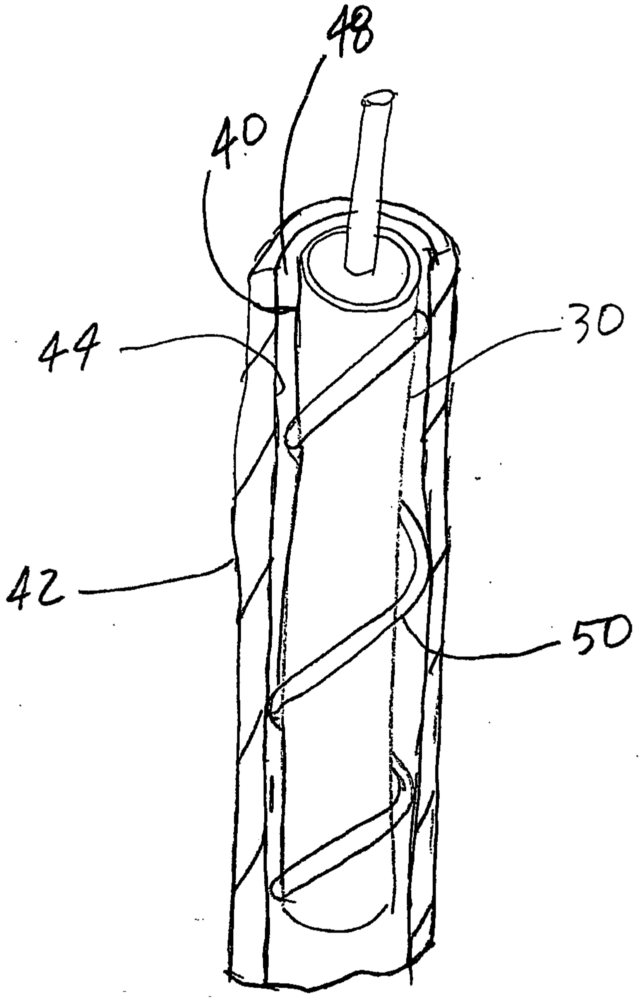

FIG. 2

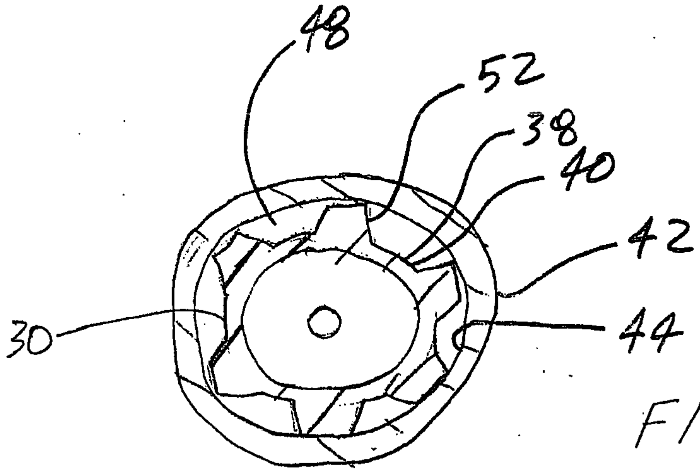

FIG 3A

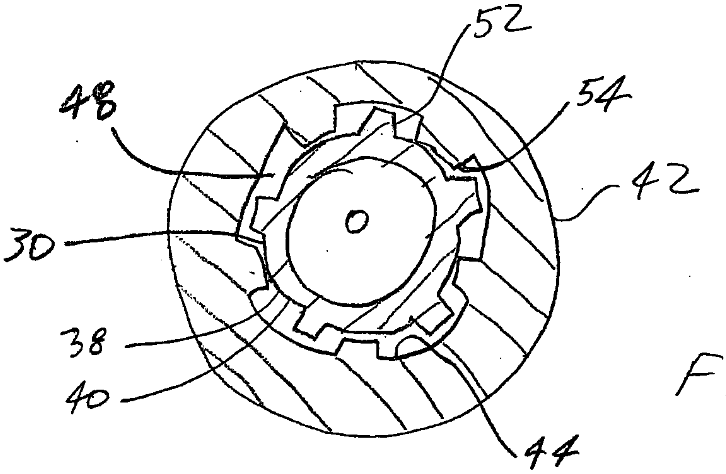

FIG 3B

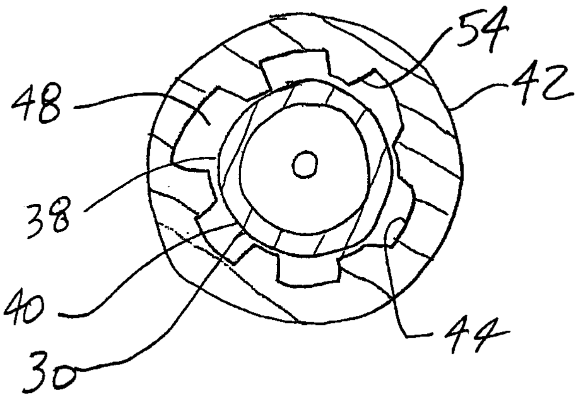

FIG 3C

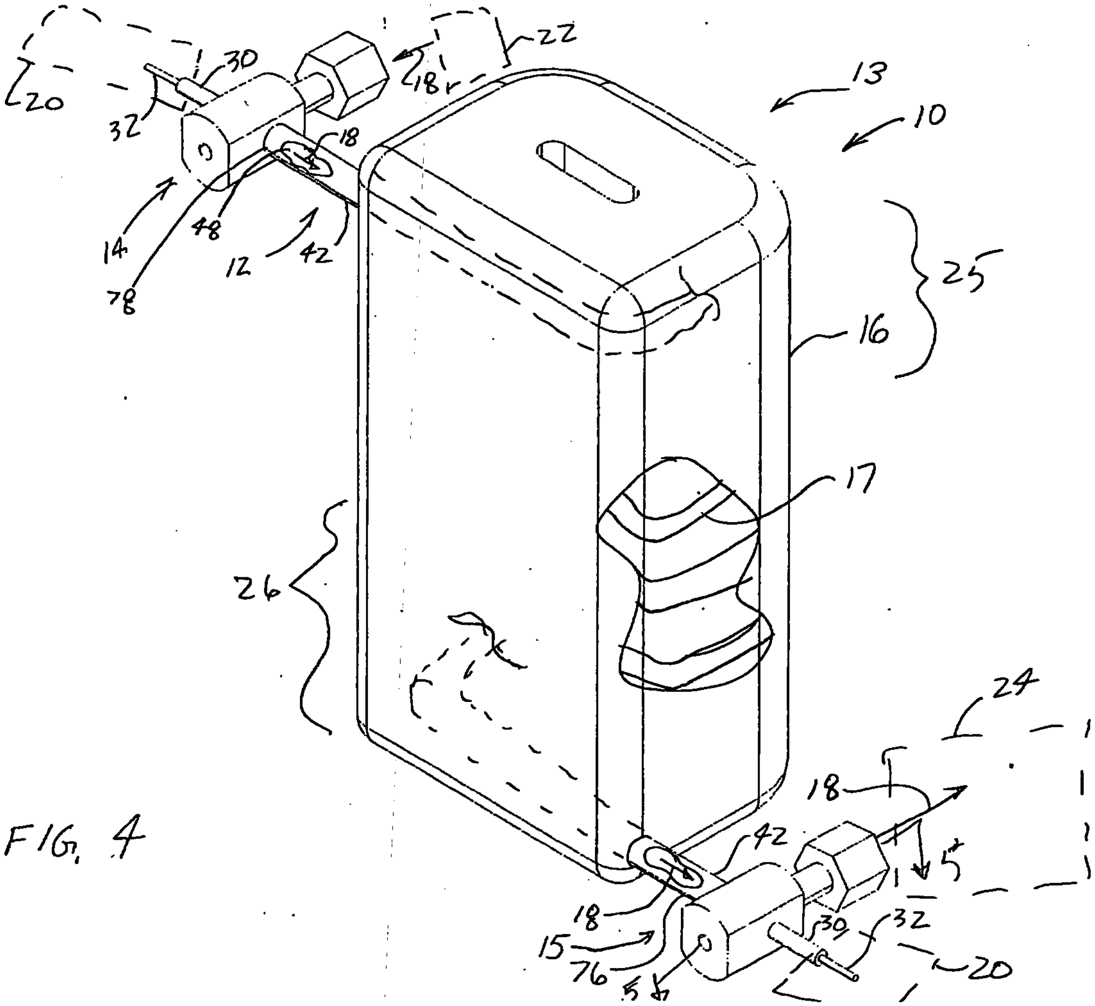
20
30
32
18
22
18
14
48
78
12
42
13
10
25
16
17
26
24
18
5
42
18
15
76
5
30
32
20

FIG. 4

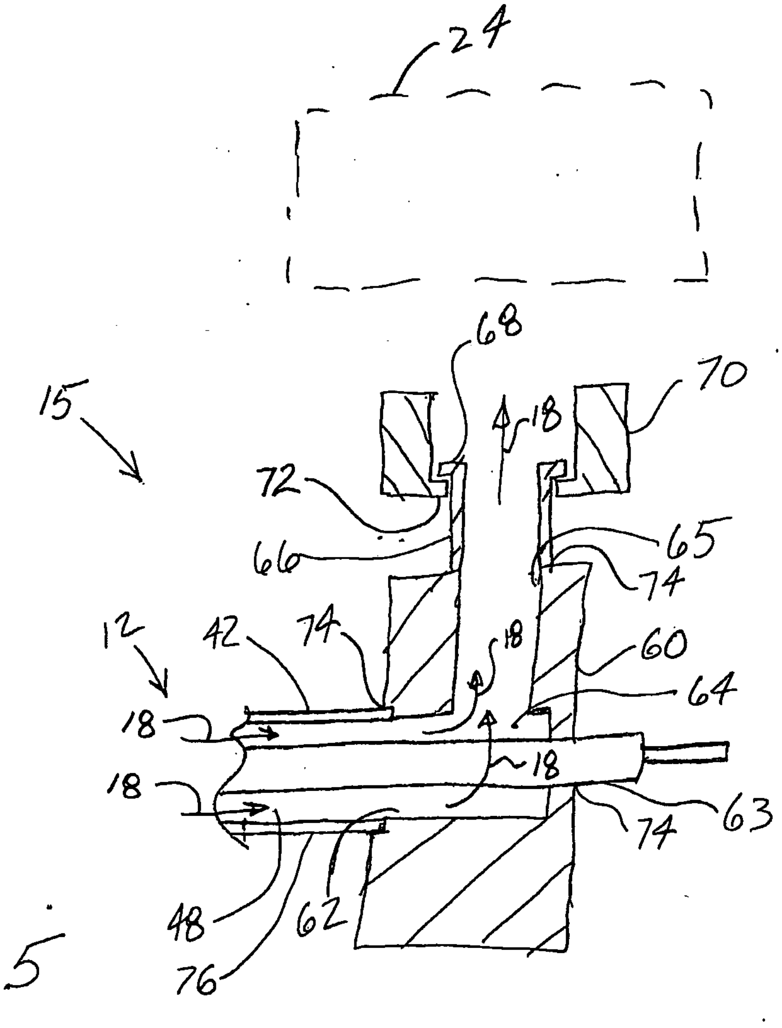

FIG. 5

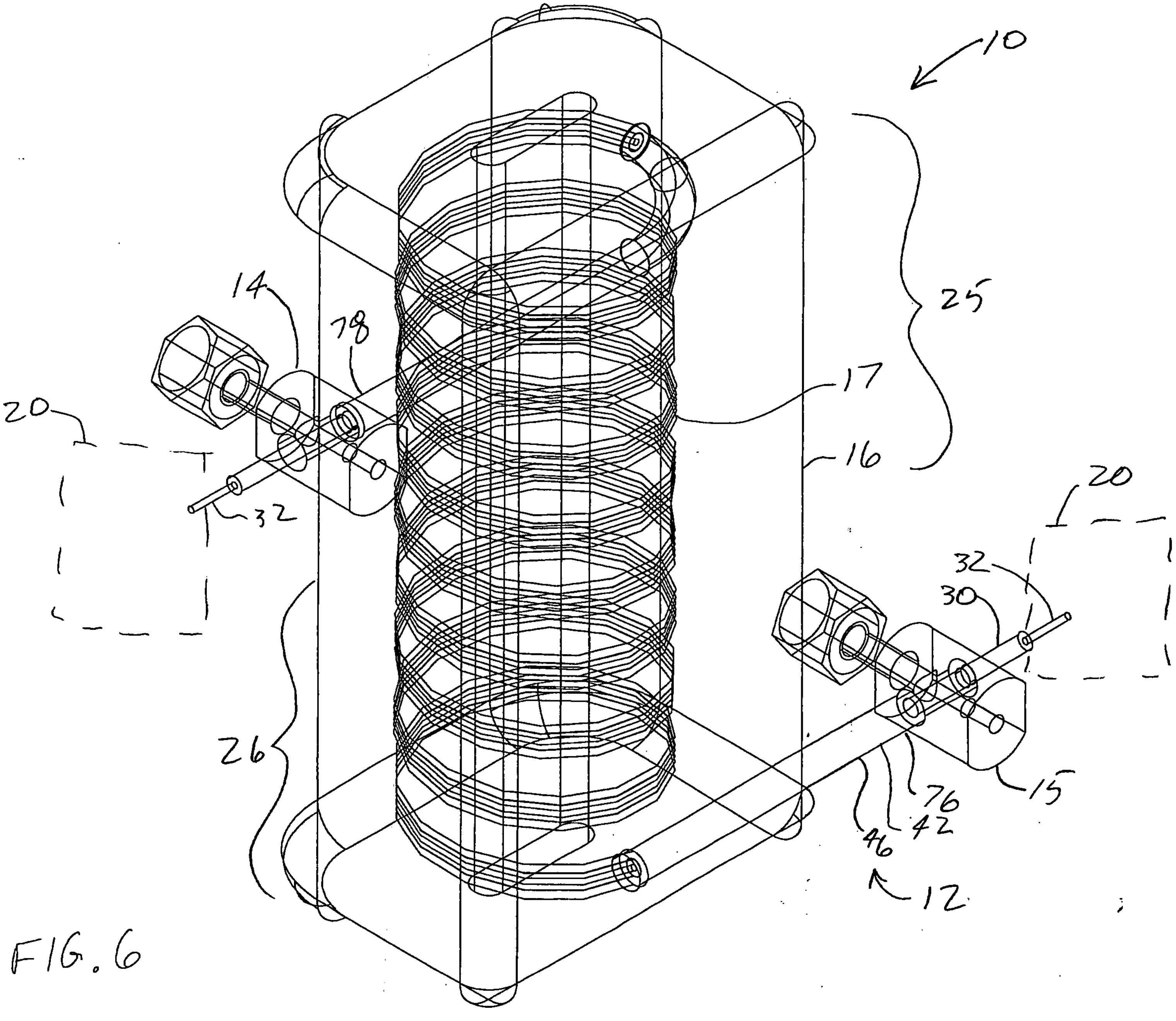

FIG. 6

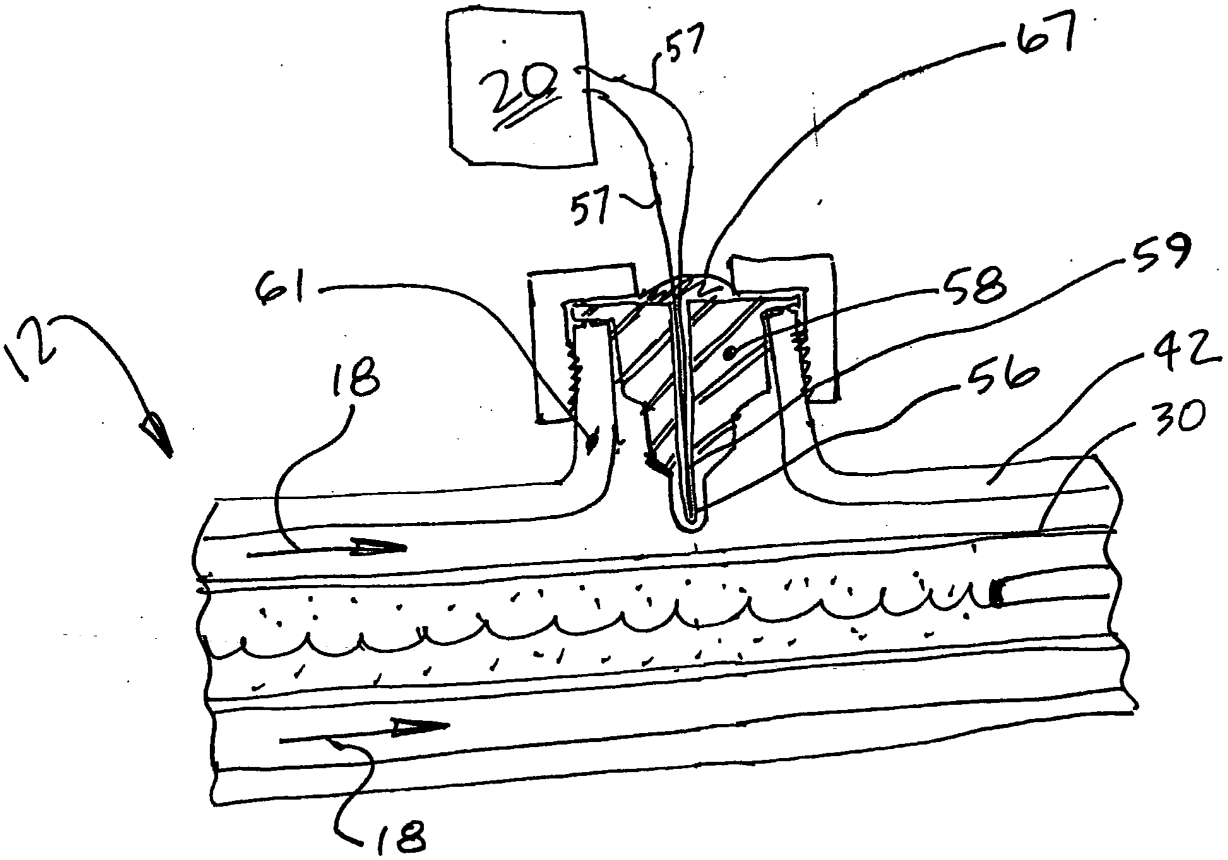

FIG. 7

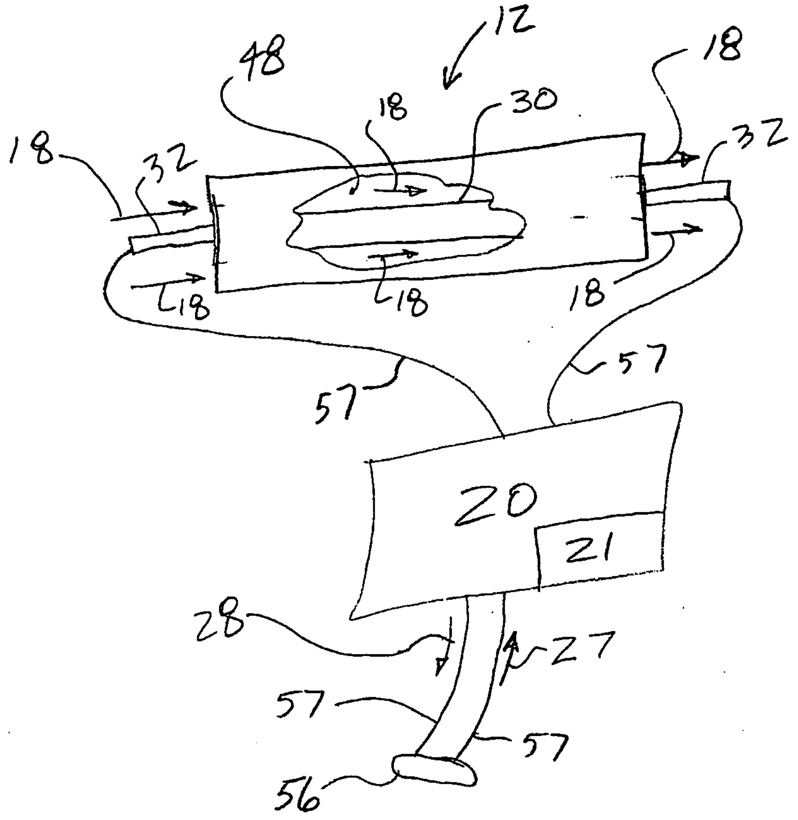

FIG. 8

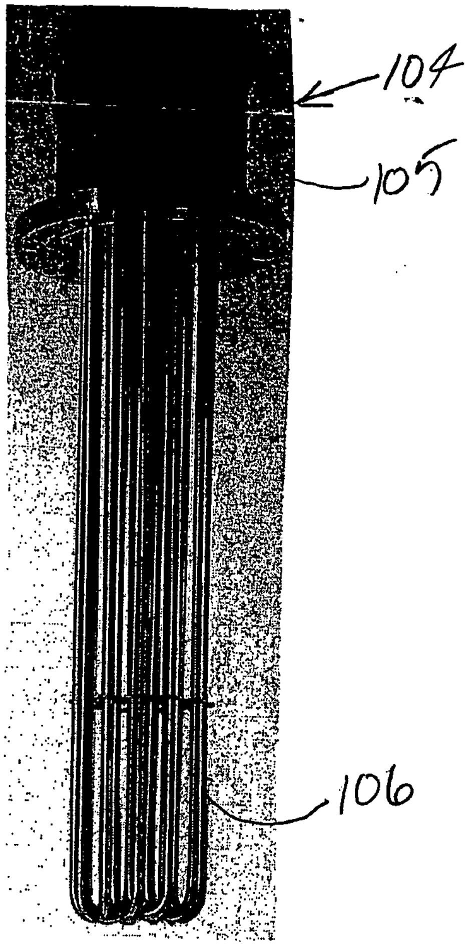

FIG. 9A

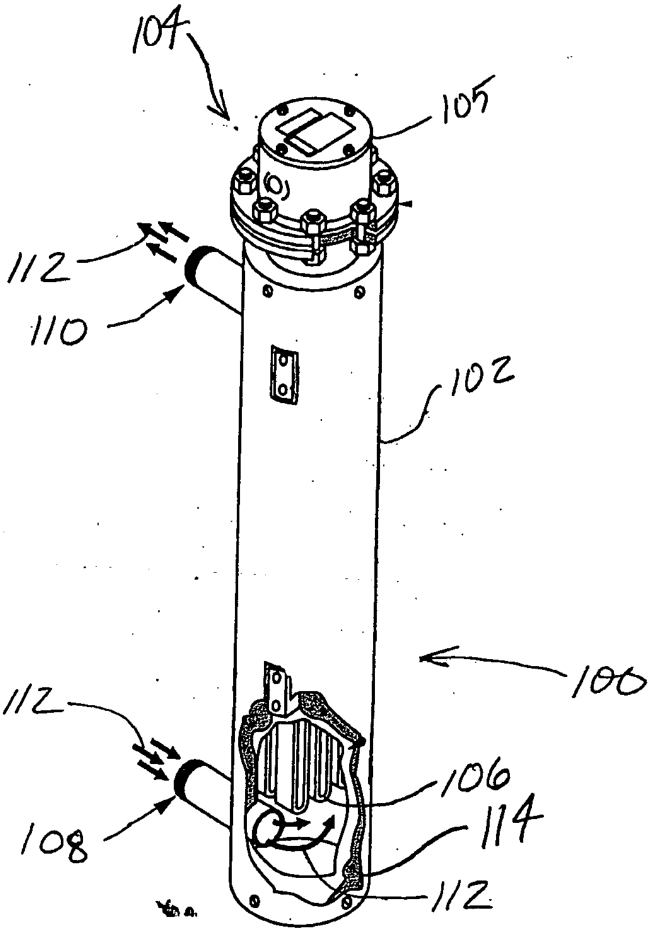

FIG. 9

PRIOR ART

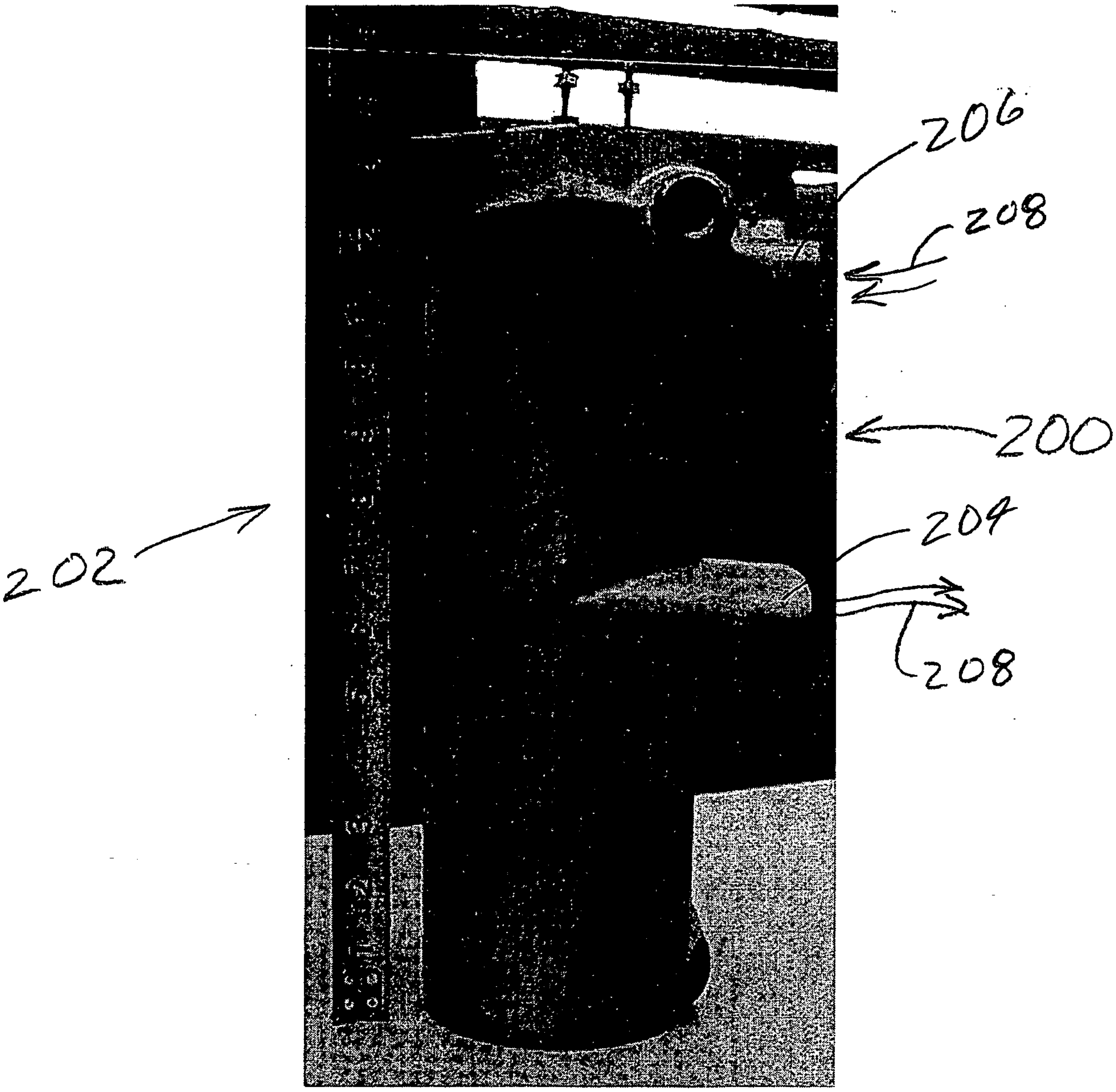

FIG. 10

PRIOR ART

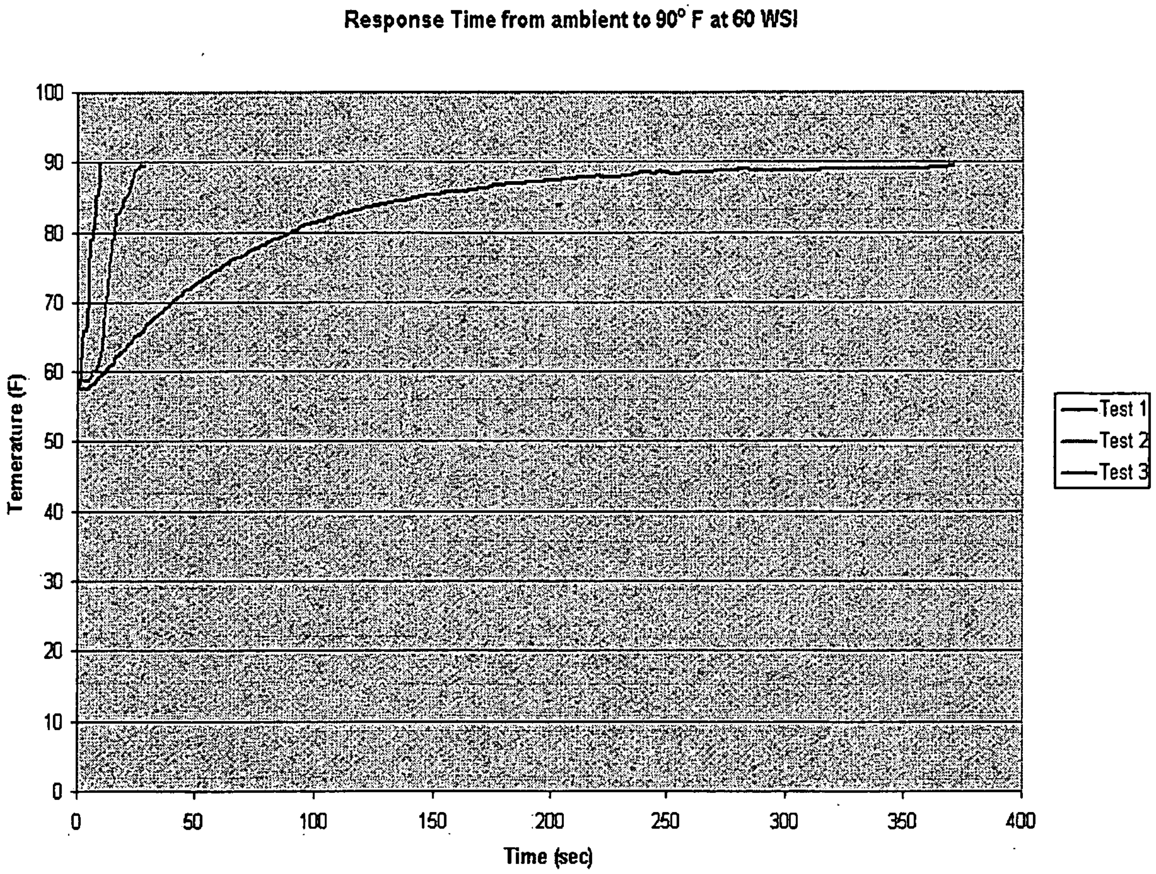
Response Time from ambient to 90° F at 60 WSI
Temerature (F)
100
90
80
70
60
50
40
30
20
10
0
0
50
100
150
200
250
300
350
400
Time (sec)
Test 1
Test 2
Test 3

FIG. 11

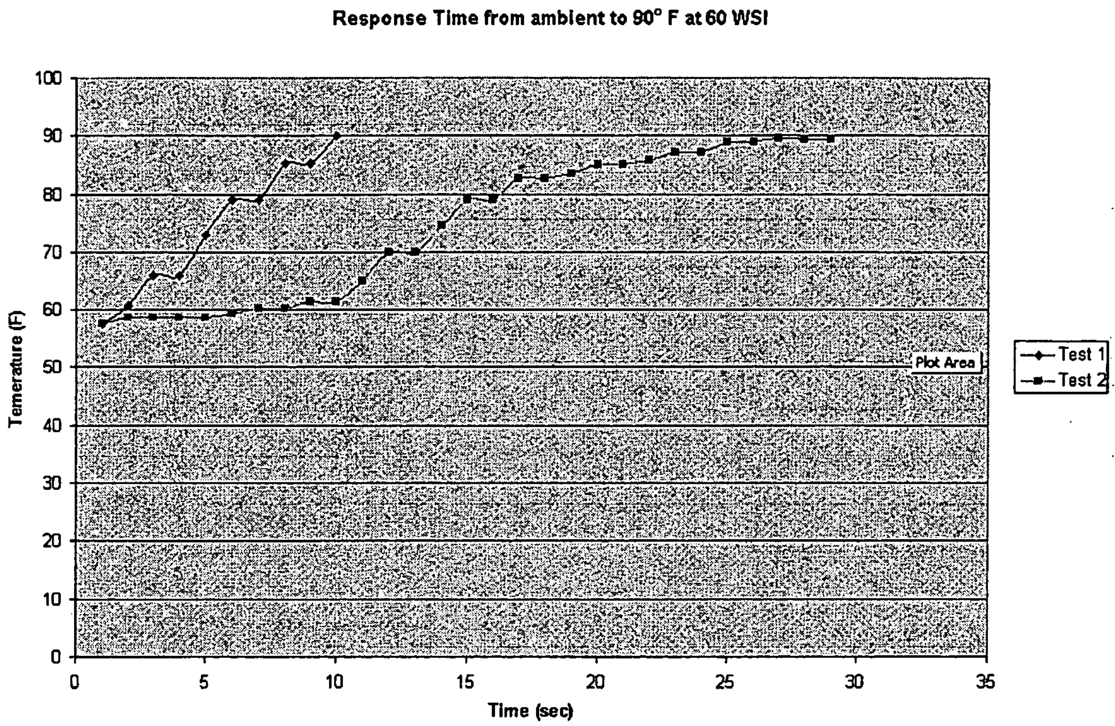
Response Time from ambient to 90° F at 60 WSI
Temerature (F)
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
25
30
35
Time (sec)
Plot Area
Test 1
Test 2

FIG. 12

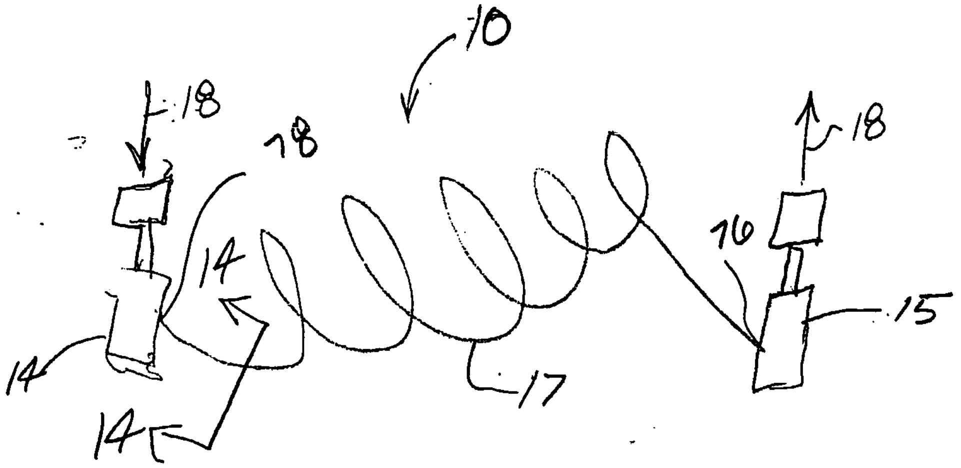

FIG. 13

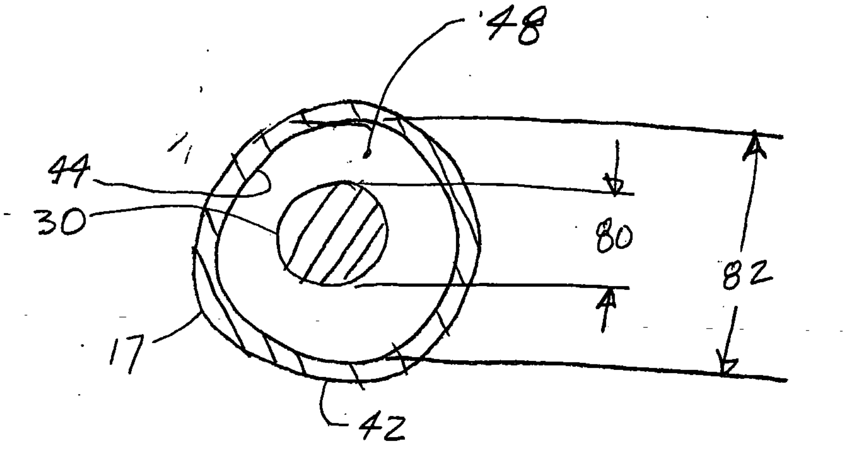

FIG. 14

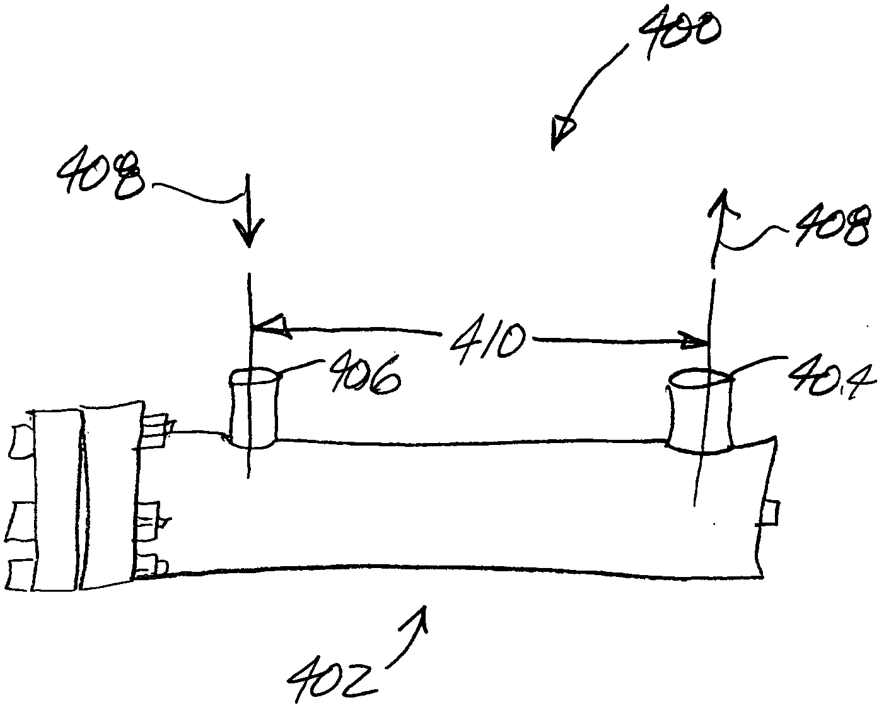

FIG. 15

FIG. 16

PRIOR ART

**Thermal Properties of Air @ Various Temperatures & 500 psig**

| Temperature, F | 68 | 216 | 500 | 1000 |
|---|---|---|---|---|
| Specific Heat Capacity, $C_p$ | .241 | .243 | .250 | .264 |
| Thermal Conductivity, K | .0134 | .0143 | .0157 | .0180 |
| Viscosity, Absolute, $\mu$ | .0442 | .0540 | .0715 | .0977 |
| Density, $\rho$ | 2.62 | 2.06 | 1.43 | 0.94 |

$C_p$ = BTU/lb-°F
K = BTU/Ft – hr - °F
$\mu$ = lb/Ft – hr
$\rho$ = lb/Ft$^3$

FIG. 17